

R. B. COOPER.
Feather Renovators.

No. 143,437.

Patented Oct. 7, 1873.

Fig. 1.

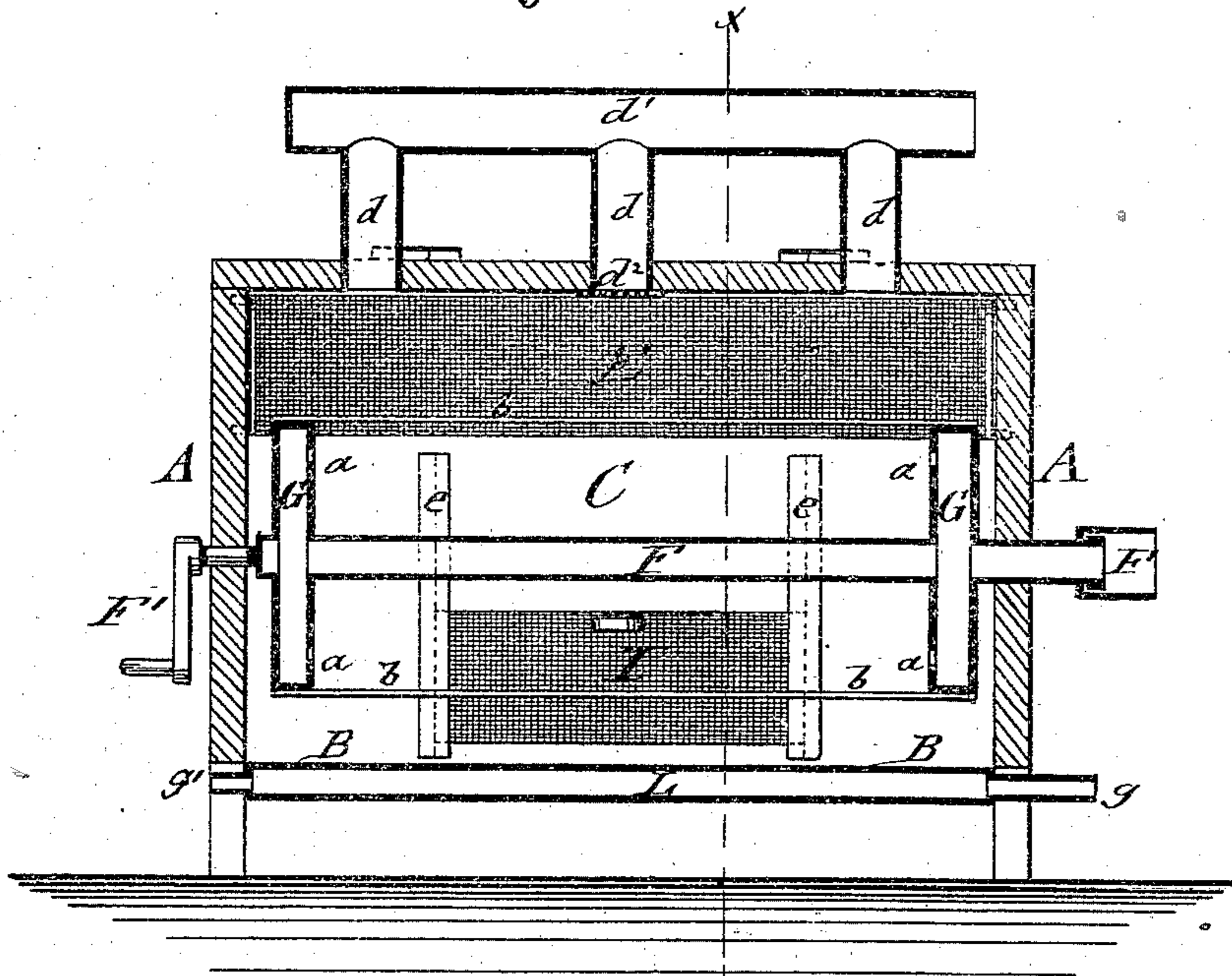
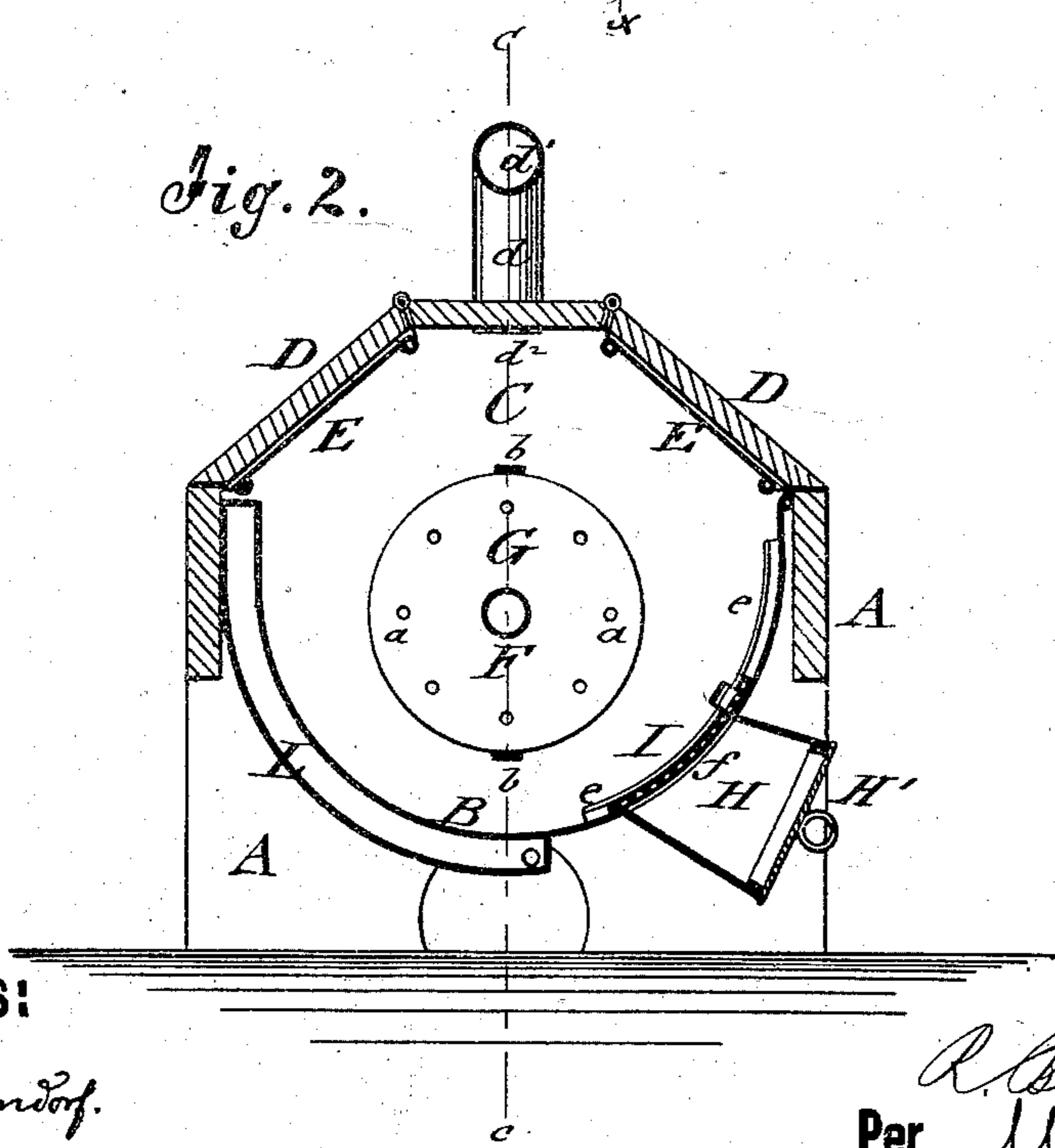


Fig. 2.



Witnesses:

A Bennekenhof.
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UNITED STATES PATENT OFFICE.

RIASON B. COOPER, OF MONTICELLO, NEW YORK.

IMPROVEMENT IN FEATHER-RENOVATORS.

Specification forming part of Letters Patent No. **143,437**, dated October 7, 1873; application filed August 16, 1873.

To all whom it may concern:

Be it known that I, RIASON B. COOPER, of Monticello, in the county of Sullivan and State of New York, have invented a new and Improved Feather-Renovator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved feather-renovator on the line *c c*, Fig. 2; and Fig. 2, a vertical transverse section of the same on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described and then clearly pointed out in the claim.

In the drawing, A represents the outer casing or box, which forms, together with the semicircular bottom B, of sheet metal or other suitable material, the steaming-chamber C. The upper part of box A is of hexagonal shape, arranged with hinged lids or doors D, and perforated screens E below them. The hollow shaft F passes centrally in longitudinal direction through chamber C, and carries near the side walls of the same the drums G, with perforations *a*, of the sides facing toward the interior of box A. Longitudinal strips *b* connect drums G, and act as stirrers on the rotation of the drums by crank F', which is applied to shaft F at its outer end. The steam is admitted to the hollow shaft F from its opposite end, and passes through the perforated drums G to the interior of chamber C, being led out again by means of vertical tubes *d* and horizontal connecting-tube *d*¹, at the top of casing A. The openings into tubes *d* may be provided with screens *d*², so that no feathers are carried out by the steam. The doors D are tightly closed during the steaming process, to produce a thorough cleansing of the feathers. The condensed water, together with the dirt,

collects at the bottom of chamber C, and is drawn off through dumping-box H, which is closed during the steaming process by lid or cap H'. Box H is of tapering shape, inclining downward from the bottom B, and provided with a sliding screen, I, which moves in guides *e*, and opens and closes thereby aperture *f* of bottom B, through which the feathers are taken out again after the renovating process. The lid H' is taken off, when the feathers are left to cool, for the admission of fresh air. The drying-chamber L extends from the lowest point of chamber C along its full length on the side opposite the dumping-box H. It is provided with the entrance and exit pipes *g g'*, through which the steam is admitted and let out for drying the feathers after the steaming process is completed. The outer doors or lids D are opened during the drying and cooling process to allow the free passage of a current of cold air through the feathers. The top screens E remain in position during the whole process of renovating the feathers, the hot air passing out through them while drying.

The apparatus is compactly arranged, and rapid and effective in its working.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The feather-renovator, consisting of outer casing A with doors D and perforated screens E, steaming-chamber C with drying-chamber L and dumping-box H arranged thereon, hollow crank-shaft F F' with perforated drums G G, and steam-tubes *d d*¹, all arranged and operated substantially as and for the purpose described.

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Witnesses:

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